REMARKS

At the outset, Applicant wishes to thank Examiner Hon for the courtesies extended to Applicant's representatives during the November 16, 2004 personal interview. The substance of the interview is incorporated in the following remarks.

Summary of the Office Action

In the Office Action, claims 1, 3-5, 8-9, 11, 13, and 16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,654,057 to *Kitayama, et al.* ("*Kitayama*") in view of U.S. Patent No. 5,637,353 to *Kimock, et al.* ("*Kimock*").

Claims 6-7, and 14-15 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Kitayama* in view of *Kimoch* and further in view of U.S. Patent No. 5,260,157 to *Mizuta, et al.* ("*Mizuta*").

Summary of the Response to the Office Action

Applicant wishes to thank the Examiner for removing the 35 U.S.C. § 112, first and second paragraph rejections. Applicant respectfully traverses the rejections under 35 U.S.C. § 103(a) and requests allowance of claims 1, 3-5, 6-9, 11, and 13-16. Accordingly, claims 1, 3-5, 6-9, 11, and 13-16 are pending for further consideration.

All Subject Matter Complies With 35 U.S.C. § 103(a)

Claims 1, 3-5, 8-9, 11, 13, and 16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Kitayama* in view of to *Kimock.* Applicant respectfully traverses the rejections for the following reasons.

Kitayama shows a glass substrate manufacturing method applicable to magnetic recording disk glass substrates. The specification discloses a method for flattening a glass substrate which includes forming a film of a solution on the surface of a sheet of glass using a down-drawn method. The specification also discloses a method for chemically strengthening a glass substrate wherein a glass substrate is immersed in a chemical reinforcement solution, heated, ions between the solution and the surface of the glass substrate are exchanged, the glass substrate is removed from the reinforcement solution and annealed to a temperature higher than the crystallization temperature of a molten salt, and finally the glass substrate is cleaned with a cleaning agent containing acid. See *Kitayama* at col. 5, lines 12-22 and 39-50.

Kimock shows a substantially optical transparent substrate with one or more chemically vapor-deposited interlayer(s) bonded to the glass substrate, and a chemically vapor-deposited outer layer made of optically transparent, hard, and low friction material bonded to the interlayer and away from the glass substrate. See the Abstract of *Kimock.*

In order to establish a *prima facie* case of obviousness, the Office must satisfy three requirements. M.P.E.P. § 2142. First, "the prior art reference, or references when combined, must teach or suggest *all* the claim limitations." (emphasis added). Second, the Office must show that there is "some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings." And third, "there must be a reasonable expectation of success." *Id.*

First, neither *Kitayama* nor *Kimock* teach or suggest, whether alone or in combination, at least the "transparent protective layer formed on an outer surface of at least one of the first

substrate and the second substrate, wherein the protective layer has a configuration which imparts a compressive stress to the outer surface of at least one of the first substrate and second substrate" features recited in independent claims 1 and 9. These features are simply absent from both references.

Kimock does make clear that ion bombardment of the glass substrate surface to remove alkali metal atoms and fluorine allows for at least one interlayer to be bonded to the glass substrate for a subsequent diamond like carbon (DLC) layer to be successfully bonded on top of the interlayer. See *Kimock* col. 3, lines 28-40. Additionally, the interlayer(s) must be devoid of all alkali metal atoms and fluorine normally found in glass in order to bond the DLC layer to the glass substrate. See *Kimock* col. 5, lines 16-17 and col. 7, lines 59-60. In other words, the outside DLC layer is not directly bonded to the glass substrate because an interlayer is necessary for proper adhesion between the glass substrate and the DLC layer. See Figs. 1-3 of *Kimock*.

The Office Action appears to allege that *Kimock* teaches that the DLC layer is the "protective layer" of the present invention. However, the Office Action fails to show that *Kimock* teaches that the DLC layer "has a configuration which imparts a compressive stress to the outer surface" of the glass substrate below it.

Kimock states that "the obvious and common approach to coating glass substrate is to apply the DLC coating directly onto a clean glass surface." However, this approach resulted in poor adhesion because the DLC layer is often under significant compressive stress. As discussed during the personal interview on November 16, 2004, Applicant's representatives reassert that the statement in *Kimock* that "DLC coatings are typically under significant compressive stress," merely suggests that *Kimock* teaches that the DLC layer is under compressive stress *i.e.*, it often

receives compressive stress from outside forces. See *Kimock* at col. 1, lines 48-55. *Kimock* does not in any way teach or suggest the DLC layer imparts a compressive stress to the outer surface of the glass substrate.

The Office Action also appears to allege that *Kimock* teaches that its interlayer is the "protective layer" of the present invention. However, the Office Action fails to show that *Kimock* teaches that the interlayer "has a configuration which imparts a compressive stress to the outer surface" of the glass substrate below it. Similarly, the Office Action fails to show that *Kitayama* teaches an outside protective layer imparting a compressive stress to the glass substrate. The Office Action admits that *Kitayama* merely teaches that a glass substrate is chemically changed to create compressive stress in its outer layer. See *Kitayama* at col. 22, lines 53 through col. 23, line 26, and col. 6, lines 60-65. Thus, neither *Kitayama* nor *Kimock* teach or suggest at least these features of the present invention.

As demonstrated above, Applicant respectfully submits that the Office Action has not established a *prima facie* case of obviousness at least because neither *Kitayama* nor *Kimock*, either alone or in combination, teaches or suggests all the recited features of independent claims 1 and 9. Applicant respectfully submits that dependent claims 3, 5-8, 11, 13, and 16 are also allowable insofar as they recite the patentable combinations of features recited in claims 1 and 9, as well as reciting additional features that further distinguish them over the applied prior art. Therefore, it is respectfully submitted that the Office Action has not met the first prong of *prima facie* obviousness.

Second, the suggestion or motivation to combine is not provided by either the references themselves or by knowledge generally available to one of ordinary skill in the art. Applicant

respectfully submits that there is no motivation to combine the references because *Kimock* teaches away from the present invention. Specifically, *Kimock* teaches that interlayers between the glass substrate and DLC layer are necessary for proper adhesion of the protective DLC layer. Thus, the outside protective DLC layer of *Kimock* cannot be combined with the chemically changed and compressively stressed outside glass layer of *Kitayama* because at least one interlayer will be present between the glass layer and the protective DLC layer. As discussed above, the DLC does not have "a configuration which imparts a compressive stress to the outer surface" of a glass substrate below it, because the interlayer makes it impossible for the DLC layer to impart the compressive stress directly to the outer surface of the glass substrate. Thus, *Kimock* teaches away from the present invention.

Therefore, it is respectfully submitted that the statement in the Office Action is not sufficient by itself to meet the second prong of *prima facie* obviousness. In fact, the MPEP § 2143.01 states that "the level of skill in the art cannot be relied upon to provide the suggestion to combine references." *Al-Site Corp. v. VSI Int'l, Inc.*, 174 F.3d 1308, 50 U.S.P.Q.2d 1161 (Fed. Cir. 1999).

Third, "[t]he mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990)." See MPEP § 2143.01. The Office Action does not provide any citation to the references of record that shows the desirability of combining *Kitayama* and *Kimock*. The mere assertion that *Kitayama* and *Kimock* could be combined is not sufficient by itself to establish *prima facie* obviousness.

Therefore, it is respectfully submitted that the Office Action has not met the third prong of *prima facie* obviousness.

Therefore, Applicant respectfully asserts that the rejection under 35 U.S.C. § 103(a) should be withdrawn because neither *Kitayama* nor *Kimock* teach or suggest, whether alone or in combination, all three prongs of *prima facie* obviousness.

Claims 6-7, and 14-15 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Kitayama* in view of *Kimoch* and further in view of *Mizuta*. These rejections are respectfully traversed in view of the following comments.

Applicant respectfully submits that *Mizuta* does not make-up for the deficiencies of both *Kitayama* and *Kimoch*. *Mizuta* is cited only to show a thermosetting silicone resin that allegedly has a low viscosity such as tetra-alkoxysilane. These features do not make up for the deficiencies above-mentioned. Therefore, claims 6-7 and 14-15 which depend from independent claims 1 and 9, respectively, and are allowable for the same reasons set forth with respect to the independent claims from which they depend and for the separate features they recite.

CONCLUSION

In view of the foregoing, Applicant respectfully request reconsideration and the timely allowance of the pending claims. Should the Examiner feel that there are any issues outstanding after consideration of the response, the Examiner is invited to contact the Applicant's undersigned representative to expedite prosecution.

If there are any other fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 50-0310. If a fee is required for an extension of time under 37 C.F.R. §1.136 not accounted for above, such an extension is requested and the fee should also be charged to our Deposit Account.

Respectfully submitted,

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